

Cascade Corporation- Fairview, OR

Sample Delivery Group: L1797247
Samples Received: 11/07/2024
Project Number: PNG0564S24
Description: Cascade

Report To: Jon Laurance
2201 NE 201st Avenue
Fairview, OR 97024-9718

Entire Report Reviewed By:



Kelly Mercer
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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SAMPLE SUMMARY

TS-C-EFF-110624 L1797247-01 GW

Collected by
Pat Yadon

Collected date/time
11/06/24 08:30

Received date/time
11/07/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2402724	1	11/15/24 22:40	11/15/24 22:40	JHH	Mt. Juliet, TN

TS-C-EFF-110624-DUP L1797247-02 GW

Collected by
Pat Yadon

Collected date/time
11/06/24 08:31

Received date/time
11/07/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2402724	1	11/15/24 23:02	11/15/24 23:02	JHH	Mt. Juliet, TN

TS-C-INF-100624 L1797247-03 GW

Collected by
Pat Yadon

Collected date/time
11/06/24 08:45

Received date/time
11/07/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2402724	1	11/15/24 23:23	11/15/24 23:23	JHH	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

ACCOUNT:

Cascade Corporation- Fairview, OR

PROJECT:

PNG0564S24

SDG:

L1797247

DATE/TIME:

11/22/24 14:14

PAGE:

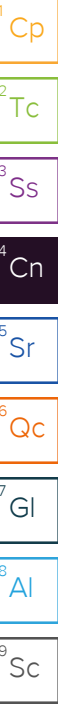
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CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Kelly Mercer
Project Manager



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	25.0	1	11/15/2024 22:40	WG2402724
Acrolein	U	C3	2.54	50.0	1	11/15/2024 22:40	WG2402724
Acrylonitrile	U		0.671	5.00	1	11/15/2024 22:40	WG2402724
Benzene	U		0.0941	0.500	1	11/15/2024 22:40	WG2402724
Bromobenzene	U		0.118	0.500	1	11/15/2024 22:40	WG2402724
Bromodichloromethane	U		0.136	0.500	1	11/15/2024 22:40	WG2402724
Bromoform	U		0.129	0.500	1	11/15/2024 22:40	WG2402724
Bromomethane	U	C3	0.605	2.50	1	11/15/2024 22:40	WG2402724
n-Butylbenzene	U		0.157	0.500	1	11/15/2024 22:40	WG2402724
sec-Butylbenzene	U		0.125	0.500	1	11/15/2024 22:40	WG2402724
tert-Butylbenzene	U		0.127	0.500	1	11/15/2024 22:40	WG2402724
Carbon disulfide	U		0.0962	0.500	1	11/15/2024 22:40	WG2402724
Carbon tetrachloride	U		0.128	0.500	1	11/15/2024 22:40	WG2402724
Chlorobenzene	U		0.117	0.500	1	11/15/2024 22:40	WG2402724
Chlorodibromomethane	U		0.140	0.500	1	11/15/2024 22:40	WG2402724
Chloroethane	U		0.192	2.50	1	11/15/2024 22:40	WG2402724
Chloroform	U		0.111	0.500	1	11/15/2024 22:40	WG2402724
Chloromethane	U	J4	0.960	1.25	1	11/15/2024 22:40	WG2402724
2-Chlorotoluene	U		0.106	0.500	1	11/15/2024 22:40	WG2402724
4-Chlorotoluene	U		0.114	0.500	1	11/15/2024 22:40	WG2402724
1,2-Dibromo-3-Chloropropane	U	C3	0.276	2.50	1	11/15/2024 22:40	WG2402724
1,2-Dibromoethane	U		0.126	0.500	1	11/15/2024 22:40	WG2402724
Dibromomethane	U		0.122	0.500	1	11/15/2024 22:40	WG2402724
1,2-Dichlorobenzene	U		0.107	0.500	1	11/15/2024 22:40	WG2402724
1,3-Dichlorobenzene	U		0.299	0.500	1	11/15/2024 22:40	WG2402724
1,4-Dichlorobenzene	U		0.120	0.500	1	11/15/2024 22:40	WG2402724
Dichlorodifluoromethane	U		0.374	2.50	1	11/15/2024 22:40	WG2402724
1,1-Dichloroethane	U		0.100	0.500	1	11/15/2024 22:40	WG2402724
1,2-Dichloroethane	U		0.0819	0.500	1	11/15/2024 22:40	WG2402724
1,1-Dichloroethene	U		0.188	0.500	1	11/15/2024 22:40	WG2402724
cis-1,2-Dichloroethene	U		0.126	0.500	1	11/15/2024 22:40	WG2402724
trans-1,2-Dichloroethene	U		0.149	0.500	1	11/15/2024 22:40	WG2402724
1,2-Dichloropropane	U		0.149	0.500	1	11/15/2024 22:40	WG2402724
1,1-Dichloropropene	U		0.142	0.500	1	11/15/2024 22:40	WG2402724
1,3-Dichloropropane	U		0.109	1.00	1	11/15/2024 22:40	WG2402724
cis-1,3-Dichloropropene	U		0.111	0.500	1	11/15/2024 22:40	WG2402724
trans-1,3-Dichloropropene	U		0.118	0.500	1	11/15/2024 22:40	WG2402724
2,2-Dichloropropane	U		0.161	0.500	1	11/15/2024 22:40	WG2402724
Di-isopropyl ether	U		0.105	0.500	1	11/15/2024 22:40	WG2402724
Ethylbenzene	U		0.137	0.500	1	11/15/2024 22:40	WG2402724
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/15/2024 22:40	WG2402724
Isopropylbenzene	U		0.105	0.500	1	11/15/2024 22:40	WG2402724
p-Isopropyltoluene	U		0.120	0.500	1	11/15/2024 22:40	WG2402724
2-Butanone (MEK)	U		1.19	5.00	1	11/15/2024 22:40	WG2402724
Methylene Chloride	U		0.430	2.50	1	11/15/2024 22:40	WG2402724
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00	1	11/15/2024 22:40	WG2402724
Methyl tert-butyl ether	U		0.101	0.500	1	11/15/2024 22:40	WG2402724
Naphthalene	U	C3	0.174	2.50	1	11/15/2024 22:40	WG2402724
n-Propylbenzene	U		0.0993	0.500	1	11/15/2024 22:40	WG2402724
Styrene	U		0.118	0.500	1	11/15/2024 22:40	WG2402724
1,1,1,2-Tetrachloroethane	U		0.147	0.500	1	11/15/2024 22:40	WG2402724
1,1,2,2-Tetrachloroethane	U		0.133	0.500	1	11/15/2024 22:40	WG2402724
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500	1	11/15/2024 22:40	WG2402724
Tetrachloroethene	U		0.300	0.500	1	11/15/2024 22:40	WG2402724
Toluene	U		0.278	0.500	1	11/15/2024 22:40	WG2402724
1,2,3-Trichlorobenzene	U	C3	0.164	0.500	1	11/15/2024 22:40	WG2402724

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/15/2024 22:40	WG2402724
1,1,1-Trichloroethane	U		0.149	0.500	1	11/15/2024 22:40	WG2402724
1,1,2-Trichloroethane	U		0.158	0.500	1	11/15/2024 22:40	WG2402724
Trichloroethene	U		0.190	0.500	1	11/15/2024 22:40	WG2402724
Trichlorofluoromethane	U		0.160	2.50	1	11/15/2024 22:40	WG2402724
1,2,3-Trichloropropane	U		0.237	2.50	1	11/15/2024 22:40	WG2402724
1,2,4-Trimethylbenzene	U		0.322	0.500	1	11/15/2024 22:40	WG2402724
1,2,3-Trimethylbenzene	U		0.104	0.500	1	11/15/2024 22:40	WG2402724
1,3,5-Trimethylbenzene	U		0.104	0.500	1	11/15/2024 22:40	WG2402724
Vinyl chloride	U		0.234	0.500	1	11/15/2024 22:40	WG2402724
Xylenes, Total	U		0.174	1.50	1	11/15/2024 22:40	WG2402724
(S) Toluene-d8	107			80.0-120		11/15/2024 22:40	WG2402724
(S) 4-Bromofluorobenzene	95.6			77.0-126		11/15/2024 22:40	WG2402724
(S) 1,2-Dichloroethane-d4	106			70.0-130		11/15/2024 22:40	WG2402724

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

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9Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	25.0	1	11/15/2024 23:02	WG2402724
Acrolein	U	C3	2.54	50.0	1	11/15/2024 23:02	WG2402724
Acrylonitrile	U		0.671	5.00	1	11/15/2024 23:02	WG2402724
Benzene	U		0.0941	0.500	1	11/15/2024 23:02	WG2402724
Bromobenzene	U		0.118	0.500	1	11/15/2024 23:02	WG2402724
Bromodichloromethane	U		0.136	0.500	1	11/15/2024 23:02	WG2402724
Bromoform	U		0.129	0.500	1	11/15/2024 23:02	WG2402724
Bromomethane	U	C3	0.605	2.50	1	11/15/2024 23:02	WG2402724
n-Butylbenzene	U		0.157	0.500	1	11/15/2024 23:02	WG2402724
sec-Butylbenzene	U		0.125	0.500	1	11/15/2024 23:02	WG2402724
tert-Butylbenzene	U		0.127	0.500	1	11/15/2024 23:02	WG2402724
Carbon disulfide	U		0.0962	0.500	1	11/15/2024 23:02	WG2402724
Carbon tetrachloride	U		0.128	0.500	1	11/15/2024 23:02	WG2402724
Chlorobenzene	U		0.117	0.500	1	11/15/2024 23:02	WG2402724
Chlorodibromomethane	U		0.140	0.500	1	11/15/2024 23:02	WG2402724
Chloroethane	U		0.192	2.50	1	11/15/2024 23:02	WG2402724
Chloroform	U		0.111	0.500	1	11/15/2024 23:02	WG2402724
Chloromethane	U	J4	0.960	1.25	1	11/15/2024 23:02	WG2402724
2-Chlorotoluene	U		0.106	0.500	1	11/15/2024 23:02	WG2402724
4-Chlorotoluene	U		0.114	0.500	1	11/15/2024 23:02	WG2402724
1,2-Dibromo-3-Chloropropane	U	C3	0.276	2.50	1	11/15/2024 23:02	WG2402724
1,2-Dibromoethane	U		0.126	0.500	1	11/15/2024 23:02	WG2402724
Dibromomethane	U		0.122	0.500	1	11/15/2024 23:02	WG2402724
1,2-Dichlorobenzene	U		0.107	0.500	1	11/15/2024 23:02	WG2402724
1,3-Dichlorobenzene	U		0.299	0.500	1	11/15/2024 23:02	WG2402724
1,4-Dichlorobenzene	U		0.120	0.500	1	11/15/2024 23:02	WG2402724
Dichlorodifluoromethane	U		0.374	2.50	1	11/15/2024 23:02	WG2402724
1,1-Dichloroethane	U		0.100	0.500	1	11/15/2024 23:02	WG2402724
1,2-Dichloroethane	U		0.0819	0.500	1	11/15/2024 23:02	WG2402724
1,1-Dichloroethene	U		0.188	0.500	1	11/15/2024 23:02	WG2402724
cis-1,2-Dichloroethene	U		0.126	0.500	1	11/15/2024 23:02	WG2402724
trans-1,2-Dichloroethene	U		0.149	0.500	1	11/15/2024 23:02	WG2402724
1,2-Dichloropropane	U		0.149	0.500	1	11/15/2024 23:02	WG2402724
1,1-Dichloropropene	U		0.142	0.500	1	11/15/2024 23:02	WG2402724
1,3-Dichloropropane	U		0.109	1.00	1	11/15/2024 23:02	WG2402724
cis-1,3-Dichloropropene	U		0.111	0.500	1	11/15/2024 23:02	WG2402724
trans-1,3-Dichloropropene	U		0.118	0.500	1	11/15/2024 23:02	WG2402724
2,2-Dichloropropane	U		0.161	0.500	1	11/15/2024 23:02	WG2402724
Di-isopropyl ether	U		0.105	0.500	1	11/15/2024 23:02	WG2402724
Ethylbenzene	U		0.137	0.500	1	11/15/2024 23:02	WG2402724
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/15/2024 23:02	WG2402724
Isopropylbenzene	U		0.105	0.500	1	11/15/2024 23:02	WG2402724
p-Isopropyltoluene	U		0.120	0.500	1	11/15/2024 23:02	WG2402724
2-Butanone (MEK)	U		1.19	5.00	1	11/15/2024 23:02	WG2402724
Methylene Chloride	U		0.430	2.50	1	11/15/2024 23:02	WG2402724
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00	1	11/15/2024 23:02	WG2402724
Methyl tert-butyl ether	U		0.101	0.500	1	11/15/2024 23:02	WG2402724
Naphthalene	U	C3	0.174	2.50	1	11/15/2024 23:02	WG2402724
n-Propylbenzene	U		0.0993	0.500	1	11/15/2024 23:02	WG2402724
Styrene	U		0.118	0.500	1	11/15/2024 23:02	WG2402724
1,1,1,2-Tetrachloroethane	U		0.147	0.500	1	11/15/2024 23:02	WG2402724
1,1,2,2-Tetrachloroethane	U		0.133	0.500	1	11/15/2024 23:02	WG2402724
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500	1	11/15/2024 23:02	WG2402724
Tetrachloroethene	U		0.300	0.500	1	11/15/2024 23:02	WG2402724
Toluene	U		0.278	0.500	1	11/15/2024 23:02	WG2402724
1,2,3-Trichlorobenzene	U	C3	0.164	0.500	1	11/15/2024 23:02	WG2402724

1 Cp

2 Tc

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Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/15/2024 23:02	WG2402724
1,1,1-Trichloroethane	U		0.149	0.500	1	11/15/2024 23:02	WG2402724
1,1,2-Trichloroethane	U		0.158	0.500	1	11/15/2024 23:02	WG2402724
Trichloroethene	U		0.190	0.500	1	11/15/2024 23:02	WG2402724
Trichlorofluoromethane	U		0.160	2.50	1	11/15/2024 23:02	WG2402724
1,2,3-Trichloropropane	U		0.237	2.50	1	11/15/2024 23:02	WG2402724
1,2,4-Trimethylbenzene	U		0.322	0.500	1	11/15/2024 23:02	WG2402724
1,2,3-Trimethylbenzene	U		0.104	0.500	1	11/15/2024 23:02	WG2402724
1,3,5-Trimethylbenzene	U		0.104	0.500	1	11/15/2024 23:02	WG2402724
Vinyl chloride	U		0.234	0.500	1	11/15/2024 23:02	WG2402724
Xylenes, Total	U		0.174	1.50	1	11/15/2024 23:02	WG2402724
(S) Toluene-d8	109			80.0-120		11/15/2024 23:02	WG2402724
(S) 4-Bromofluorobenzene	96.4			77.0-126		11/15/2024 23:02	WG2402724
(S) 1,2-Dichloroethane-d4	104			70.0-130		11/15/2024 23:02	WG2402724

1Cp

2Tc

3Ss

4Cn

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6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	25.0	1	11/15/2024 23:23	WG2402724
Acrolein	U	C3	2.54	50.0	1	11/15/2024 23:23	WG2402724
Acrylonitrile	U		0.671	5.00	1	11/15/2024 23:23	WG2402724
Benzene	U		0.0941	0.500	1	11/15/2024 23:23	WG2402724
Bromobenzene	U		0.118	0.500	1	11/15/2024 23:23	WG2402724
Bromodichloromethane	U		0.136	0.500	1	11/15/2024 23:23	WG2402724
Bromoform	U		0.129	0.500	1	11/15/2024 23:23	WG2402724
Bromomethane	U	C3	0.605	2.50	1	11/15/2024 23:23	WG2402724
n-Butylbenzene	U		0.157	0.500	1	11/15/2024 23:23	WG2402724
sec-Butylbenzene	U		0.125	0.500	1	11/15/2024 23:23	WG2402724
tert-Butylbenzene	U		0.127	0.500	1	11/15/2024 23:23	WG2402724
Carbon disulfide	U		0.0962	0.500	1	11/15/2024 23:23	WG2402724
Carbon tetrachloride	U		0.128	0.500	1	11/15/2024 23:23	WG2402724
Chlorobenzene	U		0.117	0.500	1	11/15/2024 23:23	WG2402724
Chlorodibromomethane	U		0.140	0.500	1	11/15/2024 23:23	WG2402724
Chloroethane	U		0.192	2.50	1	11/15/2024 23:23	WG2402724
Chloroform	U		0.111	0.500	1	11/15/2024 23:23	WG2402724
Chloromethane	U	J4	0.960	1.25	1	11/15/2024 23:23	WG2402724
2-Chlorotoluene	U		0.106	0.500	1	11/15/2024 23:23	WG2402724
4-Chlorotoluene	U		0.114	0.500	1	11/15/2024 23:23	WG2402724
1,2-Dibromo-3-Chloropropane	U	C3	0.276	2.50	1	11/15/2024 23:23	WG2402724
1,2-Dibromoethane	U		0.126	0.500	1	11/15/2024 23:23	WG2402724
Dibromomethane	U		0.122	0.500	1	11/15/2024 23:23	WG2402724
1,2-Dichlorobenzene	U		0.107	0.500	1	11/15/2024 23:23	WG2402724
1,3-Dichlorobenzene	U		0.299	0.500	1	11/15/2024 23:23	WG2402724
1,4-Dichlorobenzene	U		0.120	0.500	1	11/15/2024 23:23	WG2402724
Dichlorodifluoromethane	U		0.374	2.50	1	11/15/2024 23:23	WG2402724
1,1-Dichloroethane	U		0.100	0.500	1	11/15/2024 23:23	WG2402724
1,2-Dichloroethane	U		0.0819	0.500	1	11/15/2024 23:23	WG2402724
1,1-Dichloroethene	U		0.188	0.500	1	11/15/2024 23:23	WG2402724
cis-1,2-Dichloroethene	0.533		0.126	0.500	1	11/15/2024 23:23	WG2402724
trans-1,2-Dichloroethene	U		0.149	0.500	1	11/15/2024 23:23	WG2402724
1,2-Dichloropropane	U		0.149	0.500	1	11/15/2024 23:23	WG2402724
1,1-Dichloropropene	U		0.142	0.500	1	11/15/2024 23:23	WG2402724
1,3-Dichloropropane	U		0.109	1.00	1	11/15/2024 23:23	WG2402724
cis-1,3-Dichloropropene	U		0.111	0.500	1	11/15/2024 23:23	WG2402724
trans-1,3-Dichloropropene	U		0.118	0.500	1	11/15/2024 23:23	WG2402724
2,2-Dichloropropane	U		0.161	0.500	1	11/15/2024 23:23	WG2402724
Di-isopropyl ether	U		0.105	0.500	1	11/15/2024 23:23	WG2402724
Ethylbenzene	U		0.137	0.500	1	11/15/2024 23:23	WG2402724
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/15/2024 23:23	WG2402724
Isopropylbenzene	U		0.105	0.500	1	11/15/2024 23:23	WG2402724
p-Isopropyltoluene	U		0.120	0.500	1	11/15/2024 23:23	WG2402724
2-Butanone (MEK)	U		1.19	5.00	1	11/15/2024 23:23	WG2402724
Methylene Chloride	U		0.430	2.50	1	11/15/2024 23:23	WG2402724
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00	1	11/15/2024 23:23	WG2402724
Methyl tert-butyl ether	U		0.101	0.500	1	11/15/2024 23:23	WG2402724
Naphthalene	U	C3	0.174	2.50	1	11/15/2024 23:23	WG2402724
n-Propylbenzene	U		0.0993	0.500	1	11/15/2024 23:23	WG2402724
Styrene	U		0.118	0.500	1	11/15/2024 23:23	WG2402724
1,1,1,2-Tetrachloroethane	U		0.147	0.500	1	11/15/2024 23:23	WG2402724
1,1,2,2-Tetrachloroethane	U		0.133	0.500	1	11/15/2024 23:23	WG2402724
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500	1	11/15/2024 23:23	WG2402724
Tetrachloroethene	0.381	J	0.300	0.500	1	11/15/2024 23:23	WG2402724
Toluene	U		0.278	0.500	1	11/15/2024 23:23	WG2402724
1,2,3-Trichlorobenzene	U	C3	0.164	0.500	1	11/15/2024 23:23	WG2402724

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/15/2024 23:23	WG2402724
1,1,1-Trichloroethane	U		0.149	0.500	1	11/15/2024 23:23	WG2402724
1,1,2-Trichloroethane	U		0.158	0.500	1	11/15/2024 23:23	WG2402724
Trichloroethene	5.53		0.190	0.500	1	11/15/2024 23:23	WG2402724
Trichlorofluoromethane	U		0.160	2.50	1	11/15/2024 23:23	WG2402724
1,2,3-Trichloropropane	U		0.237	2.50	1	11/15/2024 23:23	WG2402724
1,2,4-Trimethylbenzene	U		0.322	0.500	1	11/15/2024 23:23	WG2402724
1,2,3-Trimethylbenzene	U		0.104	0.500	1	11/15/2024 23:23	WG2402724
1,3,5-Trimethylbenzene	U		0.104	0.500	1	11/15/2024 23:23	WG2402724
Vinyl chloride	U		0.234	0.500	1	11/15/2024 23:23	WG2402724
Xylenes, Total	U		0.174	1.50	1	11/15/2024 23:23	WG2402724
(S) Toluene-d8	109			80.0-120		11/15/2024 23:23	WG2402724
(S) 4-Bromofluorobenzene	94.8			77.0-126		11/15/2024 23:23	WG2402724
(S) 1,2-Dichloroethane-d4	106			70.0-130		11/15/2024 23:23	WG2402724

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4148294-2 11/15/24 16:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	25.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	5.00
Benzene	U		0.0941	0.500
Bromobenzene	U		0.118	0.500
Bromodichloromethane	U		0.136	0.500
Bromoform	U		0.129	0.500
Bromomethane	U		0.605	2.50
n-Butylbenzene	U		0.157	0.500
sec-Butylbenzene	U		0.125	0.500
tert-Butylbenzene	U		0.127	0.500
Carbon disulfide	U		0.0962	0.500
Carbon tetrachloride	U		0.128	0.500
Chlorobenzene	U		0.117	0.500
Chlorodibromomethane	U		0.140	0.500
Chloroethane	U		0.192	2.50
Chloroform	U		0.111	0.500
Chloromethane	U		0.960	1.25
2-Chlorotoluene	U		0.106	0.500
4-Chlorotoluene	U		0.114	0.500
1,2-Dibromo-3-Chloropropane	U		0.276	2.50
1,2-Dibromoethane	U		0.126	0.500
Dibromomethane	U		0.122	0.500
1,2-Dichlorobenzene	U		0.107	0.500
1,3-Dichlorobenzene	U		0.299	0.500
1,4-Dichlorobenzene	U		0.120	0.500
Dichlorodifluoromethane	U		0.374	2.50
1,1-Dichloroethane	U		0.100	0.500
1,2-Dichloroethane	U		0.0819	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.126	0.500
trans-1,2-Dichloroethene	U		0.149	0.500
1,2-Dichloropropane	U		0.149	0.500
1,1-Dichloropropene	U		0.142	0.500
1,3-Dichloropropane	U		0.109	1.00
cis-1,3-Dichloropropene	U		0.111	0.500
trans-1,3-Dichloropropene	U		0.118	0.500
2,2-Dichloropropane	U		0.161	0.500
Di-isopropyl ether	U		0.105	0.500
Ethylbenzene	U		0.137	0.500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4148294-2 11/15/24 16:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	0.500
p-Isopropyltoluene	U		0.120	0.500
2-Butanone (MEK)	U		1.19	5.00
Methylene Chloride	U		0.430	2.50
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00
Methyl tert-butyl ether	U		0.101	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.0993	0.500
Styrene	U		0.118	0.500
1,1,1,2-Tetrachloroethane	U		0.147	0.500
1,1,2,2-Tetrachloroethane	U		0.133	0.500
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500
Tetrachloroethene	U		0.300	0.500
Toluene	U		0.278	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	0.500
1,1,2-Trichloroethane	U		0.158	0.500
Trichloroethene	U		0.190	0.500
Trichlorofluoromethane	U		0.160	2.50
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	0.500
1,2,3-Trimethylbenzene	U		0.104	0.500
1,3,5-Trimethylbenzene	U		0.104	0.500
Vinyl chloride	U		0.234	0.500
Xylenes, Total	U		0.174	1.50
(S) Toluene-d8	108			80.0-120
(S) 4-Bromofluorobenzene	95.8			77.0-126
(S) 1,2-Dichloroethane-d4	105			70.0-130

Laboratory Control Sample (LCS)

(LCS) R4148294-1 11/15/24 15:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	21.6	86.4	19.0-160	J
Acrolein	25.0	17.3	69.2	10.0-160	J
Acrylonitrile	25.0	23.6	94.4	55.0-149	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4148294-1 11/15/24 15:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Benzene	5.00	5.32	106	70.0-123	
Bromobenzene	5.00	4.85	97.0	73.0-121	
Bromodichloromethane	5.00	5.20	104	75.0-120	
Bromoform	5.00	4.75	95.0	68.0-132	
Bromomethane	5.00	3.22	64.4	10.0-160	
n-Butylbenzene	5.00	4.58	91.6	73.0-125	
sec-Butylbenzene	5.00	4.97	99.4	75.0-125	
tert-Butylbenzene	5.00	4.92	98.4	76.0-124	
Carbon disulfide	5.00	5.44	109	61.0-128	
Carbon tetrachloride	5.00	5.49	110	68.0-126	
Chlorobenzene	5.00	5.21	104	80.0-121	
Chlorodibromomethane	5.00	4.99	99.8	77.0-125	
Chloroethane	5.00	6.16	123	47.0-150	
Chloroform	5.00	5.31	106	73.0-120	
Chloromethane	5.00	8.66	173	41.0-142	J4
2-Chlorotoluene	5.00	5.41	108	76.0-123	
4-Chlorotoluene	5.00	4.81	96.2	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	3.89	77.8	58.0-134	
1,2-Dibromoethane	5.00	5.32	106	80.0-122	
Dibromomethane	5.00	5.46	109	80.0-120	
1,2-Dichlorobenzene	5.00	5.14	103	79.0-121	
1,3-Dichlorobenzene	5.00	5.14	103	79.0-120	
1,4-Dichlorobenzene	5.00	5.01	100	79.0-120	
Dichlorodifluoromethane	5.00	6.89	138	51.0-149	
1,1-Dichloroethane	5.00	5.40	108	70.0-126	
1,2-Dichloroethane	5.00	5.37	107	70.0-128	
1,1-Dichloroethene	5.00	5.59	112	71.0-124	
cis-1,2-Dichloroethene	5.00	5.49	110	73.0-120	
trans-1,2-Dichloroethene	5.00	5.60	112	73.0-120	
1,2-Dichloropropane	5.00	5.08	102	77.0-125	
1,1-Dichloropropene	5.00	5.44	109	74.0-126	
1,3-Dichloropropane	5.00	5.28	106	80.0-120	
cis-1,3-Dichloropropene	5.00	5.15	103	80.0-123	
trans-1,3-Dichloropropene	5.00	5.17	103	78.0-124	
2,2-Dichloropropane	5.00	5.49	110	58.0-130	
Di-isopropyl ether	5.00	4.76	95.2	58.0-138	
Ethylbenzene	5.00	5.40	108	79.0-123	
Hexachloro-1,3-butadiene	5.00	5.02	100	54.0-138	
Isopropylbenzene	5.00	4.96	99.2	76.0-127	
p-Isopropyltoluene	5.00	5.06	101	76.0-125	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4148294-1 11/15/24 15:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
2-Butanone (MEK)	25.0	28.5	114	44.0-160	
Methylene Chloride	5.00	5.19	104	67.0-120	
4-Methyl-2-pentanone (MIBK)	25.0	24.8	99.2	68.0-142	
Methyl tert-butyl ether	5.00	5.12	102	68.0-125	
Naphthalene	5.00	3.62	72.4	54.0-135	
n-Propylbenzene	5.00	5.17	103	77.0-124	
Styrene	5.00	4.54	90.8	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	5.37	107	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	5.37	107	65.0-130	
1,1,2-Trichlorotrifluoroethane	5.00	5.27	105	69.0-132	
Tetrachloroethene	5.00	5.82	116	72.0-132	
Toluene	5.00	5.43	109	79.0-120	
1,2,3-Trichlorobenzene	5.00	3.81	76.2	50.0-138	
1,2,4-Trichlorobenzene	5.00	4.11	82.2	57.0-137	
1,1,1-Trichloroethane	5.00	5.72	114	73.0-124	
1,1,2-Trichloroethane	5.00	5.58	112	80.0-120	
Trichloroethene	5.00	5.40	108	78.0-124	
Trichlorofluoromethane	5.00	6.90	138	59.0-147	
1,2,3-Trichloropropane	5.00	5.75	115	73.0-130	
1,2,4-Trimethylbenzene	5.00	4.95	99.0	76.0-121	
1,2,3-Trimethylbenzene	5.00	5.11	102	77.0-120	
1,3,5-Trimethylbenzene	5.00	5.17	103	76.0-122	
Vinyl chloride	5.00	5.99	120	67.0-131	
Xylenes, Total	15.0	15.5	103	79.0-123	
(S) Toluene-d8			102	80.0-120	
(S) 4-Bromofluorobenzene			93.4	77.0-126	
(S) 1,2-Dichloroethane-d4			104	70.0-130	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

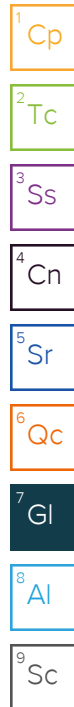
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.



ACCREDITATIONS & LOCATIONS

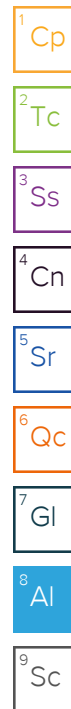
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address: Cascade Corporation- Fairview, OR 2201 NE 201st Avenue Fairview, OR 97024-9718				Billing Information: Accounts Payable P.O. Box 20187 Portland, OR 97294-0187				Analysis / Container / Preservative 				Chain of Custody Page <u>1</u> of <u>1</u>	
Report to: Jon Laurance				Email To: jlaurance@geosyntec.com;cbartlett@geosyntec.				 MT JULIET, TN 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pacelabs-terms.pdf					
Project Description: Cascade		City/State Collected: Fairview OR.		Please Circle: PT MT CT ET ☒									
Phone: 503-669-6286		Client Project # PNG0564S24		Lab Project # CASCORFOR-PNG0564									
Collected by (print): PAT YADON		Site/Facility ID #		P.O. #									
Collected by (signature): <i>Pat Yadon</i>		Rush? (Lab MUST Be Notified) ☐ Same Day ☐ Five Day ☐ Next Day ☐ 5 Day (Rad Only) ☐ Two Day ☐ 10 Day (Rad Only) ☒ Three Day * STANDARD		Quote #									
Immediately Packed on Ice N ☐ Y ☒		Date Results Needed		No. of Cntrs									
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LL 40mlAmb-HCl					
TS-C-EFF-110624 P.Y.		GW	Depth	Date	Time	No. of Cntrs	No. of Cntrs						
TS-C-EFF-110624		GW	Depth	Date	Time	No. of Cntrs	No. of Cntrs						
TS-C-EFF-110624-DUP		GW	Depth	Date	Time	No. of Cntrs	No. of Cntrs						
TS-C-INF-110624		GW	Depth	Date	Time	No. of Cntrs	No. of Cntrs						
Trip Blank Lot #531		GW	Depth	Date	Time	No. of Cntrs	No. of Cntrs						
GW		Depth	Date	Time	No. of Cntrs	No. of Cntrs	No. of Cntrs						
GW		Depth	Date	Time	No. of Cntrs	No. of Cntrs	No. of Cntrs						
GW		Depth	Date	Time	No. of Cntrs	No. of Cntrs	No. of Cntrs						
GW		Depth	Date	Time	No. of Cntrs	No. of Cntrs	No. of Cntrs						
GW		Depth	Date	Time	No. of Cntrs	No. of Cntrs	No. of Cntrs						

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other _____

Remarks:

Samples returned via:
☐ UPS ☐ FedEx ☐ Courier _____

Tracking # **4212 6472 0658** *HE 11/8/24*

Relinquished by: (Signature)
Pat Yadon
 Date: **11-6-24** Time: **16:30**

Received by: (Signature)
HEX
 Date: **11-6-24** Time: **16:30**

Relinquished by: (Signature)
 Date: _____ Time: _____

Received by: (Signature)
 Date: _____ Time: _____

Relinquished by: (Signature)
 Date: _____ Time: _____

Received for lab by: (Signature)
CRoberts
 Date: **11-07-24** Time: **0900**

Sample Receipt Checklist

COC Seal Present/Intact: ☒ NP ☒ Y ☐ N

COC Signed/Accurate: ☒ Y ☐ N

Bottles arrive intact: ☒ Y ☐ N

Correct bottles used: ☒ Y ☐ N

Sufficient volume sent: ☒ Y ☐ N

If Applicable

VOA Zero HeadSpace: ☒ Y ☐ N

Preservation Correct/Checked: ☒ Y ☐ N

RAD Screen <0.5 mR/hr: ☒ Y ☐ N

Temp: **0.1+0=0.1** °C Bottles Received: **TLAA**

Flow: _____ Other: _____

Trip Blank Received: **Yes/No** ☒ Yes ☐ No
 Hcl/ MeOH TBR

If preservation required by Login: Date/Time

Hold: _____ Condition: **NCF / OK**